Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 90 of the Commission's Rules to Improve Access to Private Land Mobile Radio Spectrum	)	WP Docket No. 16-261

COMMENTS OF
THE ASSOCIATION OF AMERICAN RAILROADS

The Association of American Railroads ("AAR")[1] submits these comments on the Federal Communications Commission's ("FCC's" or "Commission's") Notice of Proposed Rulemaking in the above-captioned proceeding.[2] Most importantly, the Commission should adopt its proposal to permit railroads to use Class A signal boosters with up to 30 watts ERP on frequencies 452/457.90625 to 452/457.9625 MHz on a permanent basis. Codifying this proposal will increase rail safety by allowing railroads to deploy signal boosters that enable communication between the front and rear end of trains in areas where rugged geography would otherwise hinder communications. The Commission should also permit railroads to operate

[1] AAR is a voluntary non-profit membership organization whose freight railroad members operate 83 percent of the line-haul mileage, employ 95 percent of the workers, and account for 97 percent of the freight revenues of all railroads in the United States. AAR members also include Amtrak, the nation's principal intercity passenger railroad, and Metra, the primary commuter railroad serving the Chicago metropolitan area. More information on AAR is available at its website: https://www.aar.org/Pages/Home.aspx.

[2] Amendment of Part 90 of the Commission's Rules to Improve Access to Private Land Mobile Radio Spectrum, *Notice of Proposed Rulemaking*, 31 FCC Rcd 9431 (2016) ("NPRM").

Class A signal boosters using the outermost frequencies (452/457.9000 MHz and 452/457.96875 MHz) in this band.

In addition, the Commission should extend conditional use licensing to the 800 and 900 MHz bands. Conditional licensing will allow users, including railroads, to commence operations to meet critical and immediate communications needs, while still being subject to frequency coordination.[3]

Finally, the Commission should provide a six-month window for incumbent 800 MHz Private Land Mobile Radio ("PLMR") licensees to obtain new licenses for Expansion Band ("EB") or Guard Band ("GB") channels before accepting applications from new entrants, but in a manner that allows Business/Industrial Land Transportation ("B/ILT") licensees full access to the available channels as proposed by the Land Mobile Communications Council ("LMCC"). Existing B/ILT licensees, including the railroads, are dependent on applying for new channels to expand their system capacity in a spectrally efficient manner. In contrast, new entrants seeking to use 800 MHz for commercial applications have ample opportunities to acquire new spectrum through spectrum auctions or on the secondary market.

DISCUSSION

I. The Commission should amend its rules to permit railroads to use Class A signal boosters with up to 30 watts ERP on frequencies 452/457.90625 to 452/457.9625 MHz.

The Commission should adopt its proposal to codify the terms of the waiver granted to AAR permitting railroads to use Class A signal boosters with up to 30 watts ERP on frequencies

[3] *See* 47 C.F.R. §§ 90.159, 90.175(a); *see also* NPRM ¶ 21 (explaining that Part 90 applications eligible for conditional authority require frequency coordination prior to being filed with the Commission).

452/457.90625 to 452/457.9625 MHz.[4] As AAR explained in its initial waiver request, the safe and efficient movement of trains relies on communications links between the fronts and rears of trains to monitor speed and brake pressure; operate rear end brakes; and, on trains with distributed power, coordinate the front and rear engines.[5] In granting AAR's waiver request, the Commission agreed with AAR that the 5 watt ERP levels authorized for signal boosters "do not provide sufficient coverage to maintain this communications link on long trains in areas of challenging terrain, and that trackside signal boosters are needed to maintain the communications link."[6] The Commission therefore waived Section 90.261(f) (which prohibits secondary fixed operations on the frequencies used by railroads in the 450-470 MHz band) and Section 90.219(d)(3) (which limits signal booster power levels to 5 watts ERP) of its rules to permit railroads to use the 452/457.90625 to 452/457.9625 MHz frequencies for secondary fixed operations and operate Class A signal boosters with an ERP of 30 watts.[7] The Commission should codify this waiver to provide railroads with the continued certainty necessary to deploy signal boosters operating at power levels sufficient to extend train control communications to the rear end of the train in areas with difficult terrain. Moreover, because the Waiver Order applies to the railroad industry as a whole, adopting rules that make this waiver permanent is the appropriate approach for long term spectrum planning and policy.

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[4] NPRM ¶ 27.

[5] *See* Association of American Railroads, Request for Waiver of Sections 90.261(f) and 90.219(d)(3) of the Commission's Rules, WT Docket No. 14-98 at 2-3 (filed July 13, 2014) ("AAR Waiver Request"); Association of American Railroads, Request for Waiver of Sections 90.261(f) and 90.219(d)(3) of the Commission's Rules, 29 FCC Rcd 13439 ¶ 6 (2014) ("AAR Waiver Order").

[6] *See* AAR Waiver Order ¶¶ 3, 6; AAR Waiver Request at 2-3.

[7] AAR Waiver Request at 1-3.

Increasing freight rail efficiency is critical to the U.S. economy; America's railroads are a vital national resource, critical to our success and productivity. In 2014, America's major freight railroads supported 1.5 million jobs, nearly $274 billion in output, and $88 billion in wages across the U.S. economy.[8] Railroads account for approximately one-third of all U.S. exports by volume, providing a vital link to international markets for American firms, farmers and resource producers.[9] Deployment of signal boosters operating at up to 30 watts ERP can improve railroad efficiency by ensuring that communications from the front of trains reach the end of the train despite obstructions caused by difficult terrain. Some railroads use, or plan to use, signal boosters with a software defined radio that increases or decreases the signal booster's power level depending on the ERP necessary to reach the end of the train, thereby providing additional protection against potential interference. Signal boosters will become even more critical as the industry begins to use longer trains to meet the country's demand for freight transportation in an efficient manner.[10]

Adopting the proposed codification of AAR's waiver will not cause harmful interference to other users. MRFAC, Inc., the only party that commented on AAR's request for waiver, offered only a general opposition to an increase in the allowed power of signal boosters. But MRFAC acknowledged that the frequencies that might be impacted were used by railroads in

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[8] *See* Association of American Railroads, THE ECONOMIC IMPACT OF AMERICA'S FREIGHT RAILROADS 1 (Aug. 2016), http://bit.ly/2fVIQkX.

[9] *Id*.

[10] *See* Association of American Railroads, THE ENVIRONMENTAL BENEFITS OF MOVING FREIGHT BY RAIL 2 (Apr. 2016), http://bit.ly/1PDc9n6 (discussing the use of long trains to increase the environmental efficiency of freight rail transportation).

any event, giving railroads the incentive to avoid any interference.[11] Additionally, MRFAC recognized that the proposed signal boosters would be located track-side in remote areas where rugged terrain would mitigate the possibility of interference.[12] Moreover, railroads have already deployed signal boosters operating at increased power levels at critical points along their tracks without any complaints of interference from other users.

II. The Commission should permit railroads to operate signal boosters on the outermost frequencies in the band.

In response to the specific request for comment, AAR also supports adopting rules to permit the use of 30 watt ERP signal boosters on the outermost frequencies (452/457.9000 MHz and 452/457.96875 MHz) in the band.[13] Permitting railroads to operate on the entire set of frequencies used by railroads in the band would enable railroads to develop enhanced train control technologies and increase the reliability of their existing safety and communications systems.

AAR is not aware of any evidence demonstrating that railroad operation of signal boosters on these outermost frequencies would cause harmful interference to other users, including anything from the record of the AAR waiver request proceeding. AAR did not request to operate on these frequencies in order to obtain this vitally important waiver as quickly and efficiently as possible, and the Commission never addressed whether excluding these outermost frequencies was necessary to prevent interference to other users. Only one commenter, MRFAC, raised generalized concerns regarding potential interference with respect to the operation of

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[11] Comments of MRFAC, Inc., WT Docket No. 14-98 at 1-2 (filed July 28, 2014) ("MRFAC Comments").

[12] *Id.*

[13] NPRM ¶ 27.

signal boosters at increased power levels, without providing specific examples or a technical analysis of potential interference from operation of signal boosters at increased power levels on the railroad outermost frequencies.[14] Given the limited use of signal boosters in remote areas with challenging terrain, the possibility of causing harmful interference to other users by operating on the outermost frequencies is highly unlikely. The railroads' own operating experience on the inner frequencies supports this conclusion.

III. The Commission should extend conditional use permitting authority to the 800 MHz and 900 MHz bands.

The Commission should adopt its proposal to extend conditional use licensing to the 800 and 900 MHz bands. As the Commission explains, "expanding conditional authority will enable more applicants to meet pressing communications requirements without needing to seek special temporary authority, and will provide greater flexibility and earlier deployment of spectrum without compromising quality of service."[15] Indeed, railroads may seek conditional use permits in certain circumstances to fill critical coverage gaps to meet important communications needs.

IV. The Commission should provide a six-month window for incumbent 800 MHz licensees to obtain new licenses for EB or GB channels before accepting applications from new entrants.

The Commission should adopt its proposal to give incumbent 800 MHz PLMR licensees a six-month window to obtain new licenses before accepting applications from new entrants, but in a manner that allows B/ILT licensees full access to the available channels as proposed by the

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[14] MRFAC Comments at 1-2.

[15] NPRM ¶ 18. AAR notes that applicants for special temporary authority do not always submit their applications to frequency coordinators. As a result, frequency coordinators, including AAR, must actively monitor applications to ensure that the new STA licenses will not interfere with frequencies used by railroads. Conditional permitting may help to prevent this problem by encouraging potential STA applicants to seek a conditional permit in circumstances where immediate operations are necessary.

LMCC.[16] Such a window would provide railroads an opportunity to expand their systems in a spectrally efficient manner. This window is especially important in highly congested areas, including the Northeast corridor and in California. As B/ILT licensees, railroads rely on these frequencies to meet their communications needs. In contrast, new entrants seeking to acquire 800 MHz licenses for commercial use have numerous opportunities to acquire commercial spectrum through the Commission's spectrum auctions or on the secondary market. AAR therefore supports the LMCC's original proposal to grant all 800 MHz PLMR incumbents - including B/ILT licensees - a six-month window to file for EB or GB channels in advance of new entrants.[17]

[16] NPRM ¶ 29.

[17] Petition for Rulemaking of the Land Mobile Communications Council, RM-11719 at 1-3 (filed Mar. 27, 2014).

CONCLUSION

The Commission should adopt or modify its proposals in this proceeding consistent with the foregoing comments.

Respectfully submitted,

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